

AMENDMENTS TO THE CLAIMS

The following is a complete, marked up listing of revised claims with a status identifier in parentheses, underlined text indicating insertions, and strikethrough and/or double-bracketed text indicating deletions.

1. (Currently Amended) A bioartificial implant, comprising:
a semipermeable barrier designed
from one side, to allow diffusion or prevent diffusion of ~~at least one of predetermined substances, materials, molecules, cells, and cell lines produced in the human body to an~~ the other opposite side of the barrier, and designed from said opposite side, to allow diffusion or prevent diffusion of predetermined substances which are the same as or different from the substances, materials, molecules, cells, and cell lines,; wherein the semipermeable barrier including has a surface coating of a bioactive metal, said surface coating being permeable to allow or prevent said diffusions.

2. (Currently Amended) A ~~bioartificial~~ An implant as claimed in claim 1, comprising: wherein said predetermined substances, materials, molecules, cells and cell lines are produced in a human body or in an animal body
~~a semipermeable barrier designed from one side, to allow diffusion of body cell nutrient and oxygen from a body of a donee to an opposite side of the~~

~~barrier where at least one of body organ and cells from a donor are positioned, and designed from said opposite side to allow diffusion of substances selected in advance, produced by at least one of the body organ and cells from the donor, the semipermeable barrier including a surface coating on said one side of a bioactive metal. said surface coating being permeable to allow said diffusions.~~

3. (Currently Amended) ~~The bioartificial~~ An implant as claimed in claim 1, wherein said surface coating is a net of said bioactive ~~the metal is applied by an atomising process.~~

4. (Currently Amended) ~~The bioartificial~~ An implant as claimed in claim 1, wherein ~~the bioartificial implant is in the form of a container~~ said bioactive metal is selected from one of titanium, zirconium, tantalum or an alloy thereof.

5. (Currently Amended) ~~The bioartificial~~ An implant as claimed in claim 14, wherein ~~the barrier has the surface coating on both sides~~ said bioactive metal is titanium.

6. (Currently Amended) ~~The bioartificial An implant as claimed in claim 1, wherein at least one of the coatings has a thickness from about 5 nm, such as about 50-250 nm~~the metal is applied by an atomizing process.

7. (Currently Amended) ~~A method, comprising:~~
~~using the bioartificial An implant, as claimed in claim 1, as a bioartificial pancreas~~wherein it is in the form of container.

8. (Currently Amended) ~~A method, comprising:~~
~~using the bioartificial An implant, as claimed in claim 1, as part of a sensor on a measuring instrument~~wherein the barrier has said surface coating on both sides.

9. (Currently Amended) ~~A method for reducing the risk of at least one of formation and growth of connective tissue in connection with an implant including a semipermeable barrier, the method comprising:~~
~~providing the barrier, at least on one side, with a permeable coating of bioactive metal~~An implant as claimed in claim 1, wherein the coating has a thickness from 5 nm.

10. (Currently Amended) ~~The method~~ An implant as claimed in claim 9, wherein the coating ~~is prepared by atomising~~ has a thickness of about 50-250 nm.

11. (Currently Amended) ~~The bioartificial~~ An implant of as claimed in claim 1, wherein ~~the surface coating of a bioactive metal includes titanium~~ said semipermeable barrier is designed from one said to allow diffusion of body cell nutrient and oxygen from a donee's body to the other opposite side of the barrier where body organ/cells from a donor are positioned, and from said other opposite side to allow diffusion of substances selected in advance, produced by the donor's body organs and cells.

12. (Currently Amended) ~~The bioartificial~~ implant of An implant as claimed in claim 21, wherein the surface coating of a bioactive metal includes titanium further comprising a sensor element enclosed by said semipermeable barrier, whereby said semipermeable barrier is designed from one side to allow diffusion of a substance to the other opposite side of a barrier, said substance being detectable by said sensor element, and from said other opposite side to allow diffusion of said substance.

13. (Currently Amended) ~~The bioartificial~~ An implant as claimed in claim 12, wherein ~~the metal is applied by an atomising process~~said substance is blood sugar and said sensor element is a blood-sugar detecting sensor element.

14. (Currently Amended) An insulin pump comprising:
~~The a~~ bioartificial implant as claimed in claim 213, and
~~wherein the bioartificial implant is in the form of a container~~an infusion set for delivering insulin based on a blood sugar level detected by said blood-sugar-detecting sensor element of said bioartificial implant, whereby said infusion set is provided with a semipermeable barrier having a surface coating of said bioactive metal, said surface coating being permeable to allow diffusion of insulin through said semipermeable barrier.

15. (Previously Presented) The bioartificial implant as claimed in claim 2, wherein the barrier has the surface coating on both sides.

16. (Previously Presented) The bioartificial implant as claimed in claim 2, wherein at least one of the coatings has a thickness from about 5 nm, such as about 50-250 nm.

17. (Previously Presented) A method, comprising:
using the bioartificial implant, as claimed in claim 2, as a bioartificial
pancreas.

18. (Previously Presented) A method, comprising:
using the bioartificial implant, as claimed in claim 2, as part of a sensor on a
measuring instrument.

19. (Previously Presented) The bioartificial implant as claimed in claim
1, wherein at least one of the coatings has a thickness of about 50-250 nm.

20. (Previously Presented) The bioartificial implant as claimed in claim
2, wherein at least one of the coatings has a thickness of about 50-250 nm.

*** END CLAIM LISTING ***